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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/578,343 12/26/95 SHIMAMURA M 35.C11174

E1M1/0823
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CHEN, S EXAMINER

ART UNIT

PAPER NUMBER

2105

DATE MAILED:

08/23/96

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/578,343

Applicant(s)

Shimamura et al.

Examiner

Sophia Chen

Group Art Unit

2105



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-56 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☒ Claim(s) 1-21, 23-32, 34-44, and 46-55 is/are allowed.

☒ Claim(s) 22, 33, 45, and 56 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Dec 26, 1995 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Drawings

1. Figure 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 9 (Figures 1-3), 110, 117, 120 (Figure 4), and 150 (Figure 5). Correction is required.
3. Figures 1-3 and 6 are objected to because the cross sectional symbols for the following reference numerals are incorrect per MPEP 608.02:
 - a. Figures 1-3, numeral 4 (toner) and Figure 6, numeral 54, it is shown as a metal material.
 - b. Figures 1-3, numeral 5 (magnet) and Figure 6, numeral 55, it is shown as a sand material.
 - c. Figures 1-3, numeral 6 (metal cylinder) and Figure 6, numeral 58, it is shown as a sand material.
 - d. Figures 2-3, numeral 11 (elastic blade), it is an unauthorized symbol.

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Specification

4. The disclosure is objected to because of the following informalities:
- a. Reference character "51" has been used to designate both photosensitive drum (page 2, line 8) and developing assembly (page 2, line 13).
 - b. Reference character "109" has been used to designate both a bias means (page 30, line 5 and Figure 4) and a process cartridge (page 31, line 17 and Figure 5).
 - c. Reference character "105" has been used to designate both magnet (page 27, line 26 and Figure 4) and developing sleeve (page 32, line 1 and Figure 5).
 - d. Page 27, line 18, "102" is not consistent with Figure 4.
 - e. Page 27, line 24, "11" is not consistent with Figure 4.
 - f. Page 28, line 16, "7" is not consistent with Figure 4.
 - g. Page 31, line 23, "109" is incorrect. The correct reference numeral should be "108".
- Appropriate correction is required.

5. The specification is objected to under 35 U.S.C 112, first paragraph, as failing to provide an enabling disclosure. Page 12, lines 3-4, "Conductive spherical particles having a true density exceeding 3 g/cm³ or below are not preferable" (emphasis added) is not consistent with page 10, lines 2-5, "The conductive spherical particles used in the present invention have a number average particle diameter of from 0.3 μ m to 30 μ m, and preferably from 2 μ m to 20 μ m, and a true density of 3 g/cm³ or below." (emphasis added). Correction is required.

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6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

7. Claims 22, 33, 45, and 56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. claim 22 is considered to be indefinite because it is unclear whether the conductive fine particles contained in the conductive coat layer are in an amount of from 2 parts by weight to 35 parts by weight or from 2 parts by weight to 100 parts by weight. Claims 33, 45, and 56 are considered to be indefinite because they repeat the limitations of claim 1.

8. Claims 33, 45, and 56 are rejected under 35 U.S.C. 112, fourth paragraph, as being of improper dependent form for failing to further limit the subject matter of a previous claim. A claim in dependent form shall contain a reference to a claim previously set forth; however, claims 33, 45, and 56 depend claims 25, 34, and 46, respectively, and one of claims 2-24 that refer back to more than “a” claim (emphasis added).

Allowable Subject Matter

9. Claims 1-21, 23-32, 34-44, and 46-55 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not teach or suggest that the conductive coat layer of the developer

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carrying member contains conductive spherical particles having a true density of 3 g/cm^3 or below.

11. Claims 22, 33, 45, and 56 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Other Prior Art

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fraser et al. discloses that the conductive particles dispersed in the styrene-butadiene are carbon black and have resistivity in the range from about $10^2 \Omega\text{-cm}$ to about $10^8 \Omega\text{-cm}$. Nishimura et al. discloses a one component magnetic developer or one component non-magnetic developer, a regulating blade made of a ferromagnetic metal, a developing sleeve (developer carrying member) coated with an outer coating layer having resin and conductive fine particles (carbon black, graphite particles, etc.) dispersed, the volume average particle size being approximately 20 microns, volume resistivity being in the range from 10^2 to 10^{-3} ohm.cm , and the conductive fine particles containing a lubricating material. Okano et al. discloses a conductive sleeve comprising a surface resin layer having conductive carbon fine particles, the average central roughness R_a of the surface being 0.3-5.0 microns, and the volume resistivity being $5.0 \times 10^0 \text{ ohm.cm}$. Miyamoto et al. discloses a one component non-magnetic developer, a developing roller including a metal base member and a resin coating layer thereon in which fine conductive particles are dispersed, a volume resistivity of 10^2 to 10^{-6} ohm.cm , a center line

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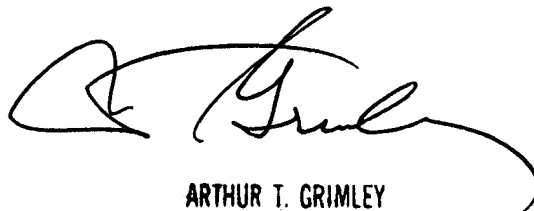
average surface roughness Ra of the surface being approximately 2.0 microns, each particle being generally round without sharp edge, a ferromagnetic metal blade, and a process cartridge being in the form of a unit comprising a photosensitive member and a developing device or further a cleaning device in a common frame. Tomiyama et al. discloses a developer containing magnetic toner having a true density of 1.45-1.8 g/cm³.

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia Chen whose telephone number is (703) 308-7617. The examiner can normally be reached on Monday through Friday from 7 am to 3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. A. Grimley, can be reached on (703) 308-1373. The fax phone number for this Group is (703) 305-3431.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1782.



ARTHUR T. GRIMLEY
SUPERVISORY PATENT EXAMINER
ART UNIT 215